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| <br>– Protocol |   | Nr.: 28. July 2020, 14:00 – 16:00                   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <b>Machine Meeting (MM)</b>  |   | Chair: M. Bai                                       |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <b>Distribution</b>  | Machine coordinators and their deputies, departments leaders accelerator, participants, Management board  |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <b>Participants</b>  | <b>Attendees</b>  |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| Torsten Radon<br>Jens Zappai   | <table border="1" data-bbox="323 443 732 1057"> <tr> <td><input checked="" type="checkbox"/> Stephan Reimann</td> <td><input checked="" type="checkbox"/> Markus Vossberg</td> </tr> <tr> <td><input type="checkbox"/> Ralph Hollinger</td> <td><input checked="" type="checkbox"/> Petra Schuett</td> </tr> <tr> <td><input type="checkbox"/> Lars Groening</td> <td><input checked="" type="checkbox"/> Klaus Tinschert</td> </tr> <tr> <td><input type="checkbox"/> Gerald Schreiber</td> <td><input type="checkbox"/> Fabio Maimone</td> </tr> <tr> <td><input checked="" type="checkbox"/> Markus Steck</td> <td><input checked="" type="checkbox"/> Sascha Mickat</td> </tr> <tr> <td><input type="checkbox"/> Frank Herfurth</td> <td><input type="checkbox"/> M. Kaiser</td> </tr> <tr> <td><input type="checkbox"/> Christina Dimopoulou</td> <td><input type="checkbox"/> Bernhard Schlitt</td> </tr> <tr> <td><input checked="" type="checkbox"/> Winfried Barth</td> <td><input type="checkbox"/> A. Schnase</td> </tr> <tr> <td><input type="checkbox"/> Gertrud Walter</td> <td><input type="checkbox"/> Jens Zappai</td> </tr> <tr> <td><input checked="" type="checkbox"/> Udo Weinrich</td> <td><input type="checkbox"/> Danyal Winters</td> </tr> <tr> <td><input type="checkbox"/> D. Severin</td> <td><input type="checkbox"/> Sergey Litvinov</td> </tr> <tr> <td><input type="checkbox"/> M. Sapinski</td> <td><input type="checkbox"/> Zoran Andelkovic</td> </tr> <tr> <td><input type="checkbox"/> Peter Spiller</td> <td><input type="checkbox"/> Michael Lestingki</td> </tr> <tr> <td><input type="checkbox"/> Markus Schwickert</td> <td><input type="checkbox"/> Jon Roßbach</td> </tr> <tr> <td></td> <td><input type="checkbox"/> Regina Heß</td> </tr> <tr> <td></td> <td><input type="checkbox"/> S. Yaramychev</td> </tr> <tr> <td></td> <td><input type="checkbox"/> Hartmut Vormann</td> </tr> <tr> <td></td> <td><input type="checkbox"/> Kalliopi Dermati</td> </tr> <tr> <td></td> <td><input type="checkbox"/> Markus Romig</td> </tr> <tr> <td></td> <td><input type="checkbox"/> Stephan Teich</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td><input checked="" type="checkbox"/> C. Hessler</td> </tr> <tr> <td></td> <td><input checked="" type="checkbox"/> Jens Stadlmann</td> </tr> <tr> <td></td> <td><input type="checkbox"/> Emma Haettner</td> </tr> </table> <p style="text-align: right;">*Types: A = Action, D = Decision, I = Information</p> | <input checked="" type="checkbox"/> Stephan Reimann | <input checked="" type="checkbox"/> Markus Vossberg | <input type="checkbox"/> Ralph Hollinger | <input checked="" type="checkbox"/> Petra Schuett | <input type="checkbox"/> Lars Groening | <input checked="" type="checkbox"/> Klaus Tinschert | <input type="checkbox"/> Gerald Schreiber | <input type="checkbox"/> Fabio Maimone | <input checked="" type="checkbox"/> Markus Steck | <input checked="" type="checkbox"/> Sascha Mickat | <input type="checkbox"/> Frank Herfurth | <input type="checkbox"/> M. Kaiser | <input type="checkbox"/> Christina Dimopoulou | <input type="checkbox"/> Bernhard Schlitt | <input checked="" type="checkbox"/> Winfried Barth | <input type="checkbox"/> A. Schnase | <input type="checkbox"/> Gertrud Walter | <input type="checkbox"/> Jens Zappai | <input checked="" type="checkbox"/> Udo Weinrich | <input type="checkbox"/> Danyal Winters | <input type="checkbox"/> D. Severin | <input type="checkbox"/> Sergey Litvinov | <input type="checkbox"/> M. Sapinski | <input type="checkbox"/> Zoran Andelkovic | <input type="checkbox"/> Peter Spiller | <input type="checkbox"/> Michael Lestingki | <input type="checkbox"/> Markus Schwickert | <input type="checkbox"/> Jon Roßbach |  | <input type="checkbox"/> Regina Heß |  | <input type="checkbox"/> S. Yaramychev |  | <input type="checkbox"/> Hartmut Vormann |  | <input type="checkbox"/> Kalliopi Dermati |  | <input type="checkbox"/> Markus Romig |  | <input type="checkbox"/> Stephan Teich |  |  |  | <input checked="" type="checkbox"/> C. Hessler |  | <input checked="" type="checkbox"/> Jens Stadlmann |  | <input type="checkbox"/> Emma Haettner |  |
| <input checked="" type="checkbox"/> Stephan Reimann  | <input checked="" type="checkbox"/> Markus Vossberg   |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <input type="checkbox"/> Ralph Hollinger   | <input checked="" type="checkbox"/> Petra Schuett   |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <input type="checkbox"/> Lars Groening   | <input checked="" type="checkbox"/> Klaus Tinschert   |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <input type="checkbox"/> Gerald Schreiber  | <input type="checkbox"/> Fabio Maimone  |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <input checked="" type="checkbox"/> Markus Steck   | <input checked="" type="checkbox"/> Sascha Mickat   |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <input type="checkbox"/> Frank Herfurth  | <input type="checkbox"/> M. Kaiser  |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <input type="checkbox"/> Christina Dimopoulou  | <input type="checkbox"/> Bernhard Schlitt   |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <input checked="" type="checkbox"/> Winfried Barth   | <input type="checkbox"/> A. Schnase   |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <input type="checkbox"/> Gertrud Walter  | <input type="checkbox"/> Jens Zappai  |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <input checked="" type="checkbox"/> Udo Weinrich   | <input type="checkbox"/> Danyal Winters   |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <input type="checkbox"/> D. Severin  | <input type="checkbox"/> Sergey Litvinov  |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <input type="checkbox"/> M. Sapinski   | <input type="checkbox"/> Zoran Andelkovic   |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <input type="checkbox"/> Peter Spiller   | <input type="checkbox"/> Michael Lestingki  |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
| <input type="checkbox"/> Markus Schwickert   | <input type="checkbox"/> Jon Roßbach  |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
|  | <input type="checkbox"/> Regina Heß   |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
|  | <input type="checkbox"/> S. Yaramychev  |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
|  | <input type="checkbox"/> Hartmut Vormann  |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
|  | <input type="checkbox"/> Kalliopi Dermati   |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
|  | <input type="checkbox"/> Markus Romig   |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
|  | <input type="checkbox"/> Stephan Teich  |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
|  |   |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
|  | <input checked="" type="checkbox"/> C. Hessler  |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
|  | <input checked="" type="checkbox"/> Jens Stadlmann  |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |
|  | <input type="checkbox"/> Emma Haettner  |   |   |  |   |  |   |   |  |  |   |   |                                    |   |   |  |                                     |   |                                      |  |   |                                     |  |                                      |   |  |  |  |                                      |  |                                     |  |  |  |  |  |   |  |                                       |  |  |  |  |  |  |  |  |  |  |  |

|  |  |             |
|--|--|-------------|
| <b>Important:</b><br>I = Information<br>D = Decision<br>AI = Action Item |  |             |
| <b>1</b>   | <b>Agenda</b>  |             |
|  | 1. Approval of meeting minutes<br>2. Follow-up of action items<br>1. latest radiation survey at SIS18: T. Radon<br>3. Status update  |             |
| <b>2</b>   | <b>Update</b>  |             |
|  | <p>Torsten shared with us the latest radiation survey at SIS18. Moderate effects from mini proton high intensity campaign were seen. Nevertheless, the measured radiation rate is just below the tolerance (controlled area). Long beam time with high intensity light ion could be a concern from the radiation protection point of view. For details, please see slides at <a href="https://indico.gsi.de/event/10978/contributions/46154/">https://indico.gsi.de/event/10978/contributions/46154/</a></p> <p><b>Beam time status:</b> <a href="https://indico.gsi.de/event/10978/contributions/46165/">https://indico.gsi.de/event/10978/contributions/46165/</a><br/>         shutdown: progressing on track with delays due to several items including LBH issues<br/>         TR: Company for cleaning LBH is found. Will start in the next 2 weeks estimate duration is 2 weeks</p> <p><b>Ion Source status:</b> <a href="https://indico.gsi.de/event/10978/contributions/46164/">https://indico.gsi.de/event/10978/contributions/46164/</a><br/>         Still in vacation time. Moderate progress. Preparation of beam test at high intensity ion source started</p> <p><b>UNILAC status:</b> <a href="https://indico.gsi.de/event/10978/contributions/46168/">https://indico.gsi.de/event/10978/contributions/46168/</a><br/>         shutdown activities status update. Details see the presentation in the link above</p> <p>Concerns: 1) disappearance of the eater leak in the A2 drifttube 2) the short of UNILAC septum is still outstanding 3) water was found in the HSI-IH triplet area. Needs to be opened. Substantial workload, estimate 4 weeks. This will also impact the HSI RFQ. Needs to be re-commissioned Q3 2020</p> <p><b>SIS18 status:</b> <a href="https://indico.gsi.de/event/10978/contributions/46167/">https://indico.gsi.de/event/10978/contributions/46167/</a><br/>         besides the delays due to LBH issue, most shutdown activities ongoing electric ground re-worked. This was done due to the latest safety walk.</p> <p>Report on Spill cavity will be given by Jens at the end of August</p> <p><b>HEST status:</b> <a href="https://indico.gsi.de/event/10978/contributions/46163/">https://indico.gsi.de/event/10978/contributions/46163/</a><br/>         Working on the budget planning, HHD beamline and HEST optics.</p> <p><b>FRS status: No presence</b></p> <p><b>ESR status:</b> <a href="https://indico.gsi.de/event/10978/contributions/46161/">https://indico.gsi.de/event/10978/contributions/46161/</a><br/>         Routine status. One concern is the RF synchronization between rings, whose activities (ACO with collaboration of RRF) seem to be frozen. At the moment, the understanding of this project is new and can take visible period of time. Needed for FAIR phase 0 and FAIR.</p> <p><b>CRYRING status:</b><br/>         Not much progress due to vacation</p> | M. Vossberg |

|          |  |   |            |  |
|----------|--|---|------------|--|
|          | <p>AIP status: <a href="https://indico.gsi.de/event/10978/contributions/46155/">https://indico.gsi.de/event/10978/contributions/46155/</a></p> <p>PSU status: <a href="https://indico.gsi.de/event/10978/contributions/46166/">https://indico.gsi.de/event/10978/contributions/46166/</a></p> <p>cw-LINAC status: <a href="https://indico.gsi.de/event/10978/contributions/46160/">https://indico.gsi.de/event/10978/contributions/46160/</a></p>  |   |            |  |
| <b>3</b> | <b>Discussion</b>  |   | <b>All</b> |  |
|          | <p>Christoph asked about the timeline of the digitization project. He is interested to learn when the digitization of beam diagnostics should be ready for FCC. Nevertheless, it seems there is a clear understanding/knowledge regarding the overall timeline. Since this is the responsibility of BEA while overall digitization project is led by ACO, Mei will contact both BEA and ACO to ask for presentations on the digitization at future MM.</p>                               |   |            |  |
| <b>4</b> | <b>Open Action items</b>   |   |            |  |
|          | <p>1. Provide a list of planned controls release and changes in 2020-2021 along with their potential impact and effect on the GSI existing facilities and systems such as beam instrumentation, power convertor etc</p> <p>2. work with the relevant technical groups, experts to develop the list of the critical systems/components with information of the existing status as well as the spare parts or other mitigation measures</p> <p>3. Digitization project status and plan</p> | <p>Ralph Bär</p> <p>Jens</p> <p>Ralph Bär/R. Steinhagen</p> |            |  |
|          | <b>Any other business</b>  |   |            |  |
|          | <ul style="list-style-type: none"> <li>• <b>Next Machine Meeting: August 7 2020, 10:00-11:30 Uhr via Zoom</b></li> </ul>   |   |            |  |
|          |  |   |            |  |